PROPORTIONAL PRESSURE REGULATOR WITH COILVISION TECHNOLOGY

SERIES PRE

Two sizes available: PRE1 and PRE2
Ports G1/8 - G1/4 - G3/8 - 1/4NPTF

The Series PRE proportional pressure regulator is equipped with a new technology, CoilVision, which constantly monitors the operation of the solenoids in the regulator to assess their health status.

All data generated by the regulator can be transmitted wirelessly, for logging, aggregation and analysis and can be viewed through the UVIX software, downloadable from the Camozzi Catalogue website.

The Series PRE is available in two sizes and in different configurations, including IOLink
connectivity. As well as the standard options with and without display, there is a version with an integral exhaust valve, which enables the system to exhaust even without a power supply.

A manifold version enables the control of several outlets with only one inlet, while a version with an additional external sensor connection enables pressure control at any point in the system.

- "CoilVision technology" for diagnostics and health status analysis
- Compatible with oxygen
- Control parameters can be customised
- Configuration flexibility
- IO-Link version
- Version with and without display
- Manifold version
- Version with integrated exhaust valve
- UL CSA certificate
- 5 bit PreSet version for a maximum of 32 different pressures
- Modular with Series MD

GENERAL DATA

Standard of reference	CE; RoHS; UL-CSA
Controlled quantity	Pressure
Number of ways	3
Flow (Qn)	PRE104 - 1100 Nl/min PRE238 - 4600 Nl/min
Fluid	Filtered and non-lubricated compressed air of class 7.4.4 according to ISO 8573.1. Inert gases and oxygen
Min & max regulated pressure (bar)	0 - 1 bar (0-14,5 PSI)(B) 0,05 - 10,3 bar (0,72-150 PSI)(D) 0,05 - 6 bar (0,72-87 PSI)(F) 0,03 - 4 bar (0,43-58 PSI) (E) 0,05 - 7 bar (0,72-101,5 PSI) (G)
Maximum inlet pressure	2 bar (B) 5 bar (E) 11 bar (D); (G) ed (F)
External sensor (optional)	input signal 0-10 V DC or 4-20 mA
Resolution (% FS)	0,3 (Size 1) 0,6 (Size 2)
Fluid temperature (min and max °C)	0 - 50 °C
Environmental temperature (min and max °C)	0 - 50 °C
Pneumatic ports	G1/8 - G1/4 - G3/8 - 1/4 NPTF
Materials	body: aluminium - cover: technopolymer - seals: NBR or FKM
Supply voltage (V)	24 V DC
Command signal	0-10V (2); 4-20 mA (4); 5 bit Digital (D); IO-Link (I)
Hysteresis (% FS)	0,5% (Size 1) 0.7% (Size 2)
Power consumption	From a minimum of 105 to a maximum of 250 mA (see the product manual for further details)
Type of electrical connection	M12 5 Pin Male (IO-Link) M12 8 Pin Male (Analog and PreSet) M12 12 Pin Male (version with external sensor)
IP protection class	IP65
Repeatability (% FS)	0,4
Linearity (% FS)	0,4
Modularity	with Series MD
PRE in IO-Link version	V1.1 according to standard IEC 61131-9 / 61131-2
Feedback signal	0-5 V DC and 4-20 mA (always present in the version with analog command signal (2) (4))

PROPORTIONAL PRESSURE REGULATOR WITH COILVISION TECHNOLOGY
SERIES PRE - CODING EXAMPLE

CODING EXAMPLE

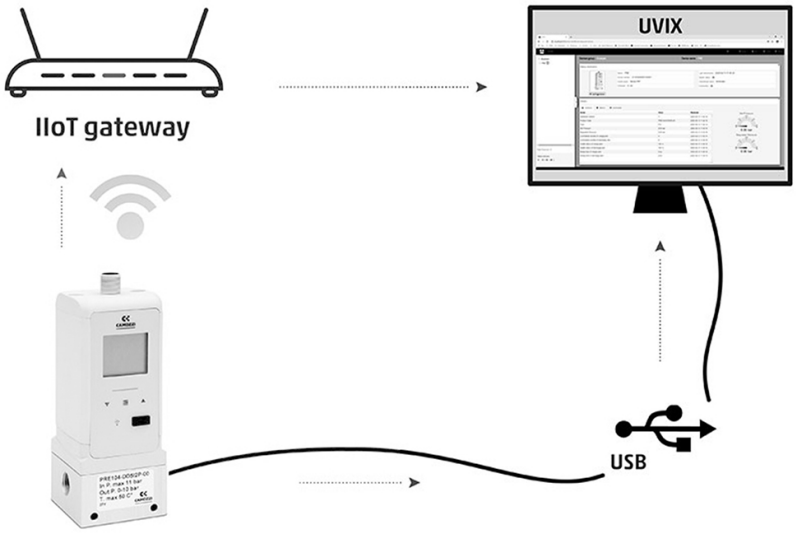
PRE	1	04	-	D	D	5	I	2	E	-	00

PRE	SERIES
1	Size: 1 = Size 1 2 = Size 2
04	CONNECTION PORT: 04 = G1/4 38 = G3/8 (only size 2) M4 = G1/4 Manifold 14 = NPTF 1/4 (only size 1) N4 = 1/4 NPTF Manifold 08 = G1/8 (only size 1) M8 = G1/8 Manifold (only size 1)
D	DISPLAY: E = without display D = with display (only with command signal 2,4 or D)
D	WORKING PRESSURE (1 bar = 14,5 psi): B = 0-1 bar E = 0-4 bar F = 0-6 bar G = 0-7 bar D = 0-10,3 bar 2 = external sensor 0-10 o 4-20 mA. The external sensor is not included in the controller, it must be purchased separately
5	VALVE FUNCTION: 5 = 3 way standard 6 = integrated exhaust valve (maximum working pressure B, E or G) 7 = 3 way (connection 3 transportable, optional for size 1, standard for size 2) 8 = integrated exhaust valve (port 3 transportable, optional for size 1, standard for size 2. Maximum working pressure B, E or G)
I	PILOT SUPPLY: I = Internal E = External
2	COMMAND SIGNAL: 2 = 0-10 V 4 = 4-20 mA D = 5 bit Preset for 32 different pressure values (only without external pressure sensor) I = IO-Link (only without display and without external pressure sensor)
E	DIGITAL OUTPUT SIGNAL: E = error signal (only with input signal 2, 4, D) P = pressure switch (only with input signal 2, 4, D) W = window (only with input signal 2, 4, D) N = without digital output (only with IO-Link version)
00	CABLE LENGTH: 00 = No cable 2F = 2mt straight unshielded 2R = 2mt 90° cable unshielded 5F = 5mt straight unshielded 5R = 5mt 90° cable unshielded 2FC = 2mt straight shielded 2RC = 2mt 90° shielded 5FC = 5mt straight shielded 5RC = 5mt 90° shielded
0D	DIAGNOSTIC ACCESSORIES: = without diagnosis (only with input signal 2, 4, D) 0D = basic diagnostics (only with input signal 2, 4, D) 0W = wireless diagnostics (only with input signal 2, 4, D) DW = wireless diagnostics + CoilVision® (only with input signal 2, 4, D)) 1D = IO-Link + CoilVision® diagnostics (only with IO-Link version)
OX1	CERTIFICATES: = no certificate OX1 = for use with oxygen
	Version suitable to be used with oxygen. With a working pressure of Max 6 Bar, available both with internal and external pilot supply; with all other versions only with external pilot supply."

SERIES PRE - COILVISION DIAGNOSTICS

The CoilVision function, (optional in the Series PRE proportional regulators), has the aim to constantly monitor the operation of the individual solenoids in the regulator, this is possible thanks to specific electronics and algorithms patented by Camozzi.

This option allows to monitor the health and operating status of the pilot solenoids, indicating any discrepancies compared to the ideal operating conditions. The information obtained allows the user to plan, in advance, any interventions on the most essential devices.

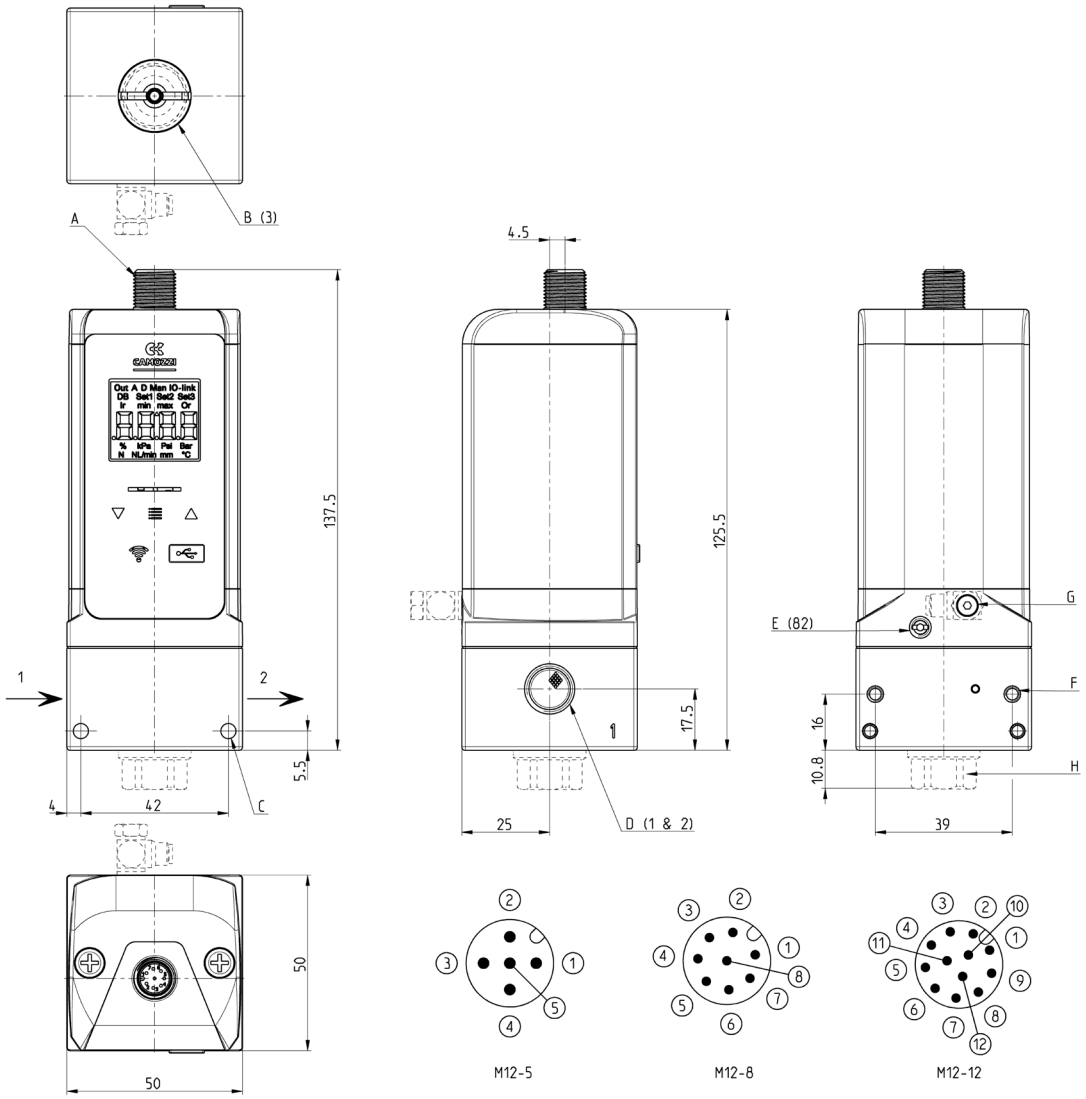


Through this function, you also have control over the internal temperature and the actual working hours of the regulator. All these indications can be read by the "UVIX" supervisor software, that can be downloaded free of charge from the Camozzi website in the products section.

Thanks to UVIX, data can be read via USB port or via wireless connection, where present. Devices equipped with an IO-Link connection can also make the data available to the PLC through the IO-Link master.

PROPORTIONAL PRESSURE REGULATOR WITH COILVISION TECHNOLOGY
SERIES PRE - DIMENSIONAL CHARACTERISTICS

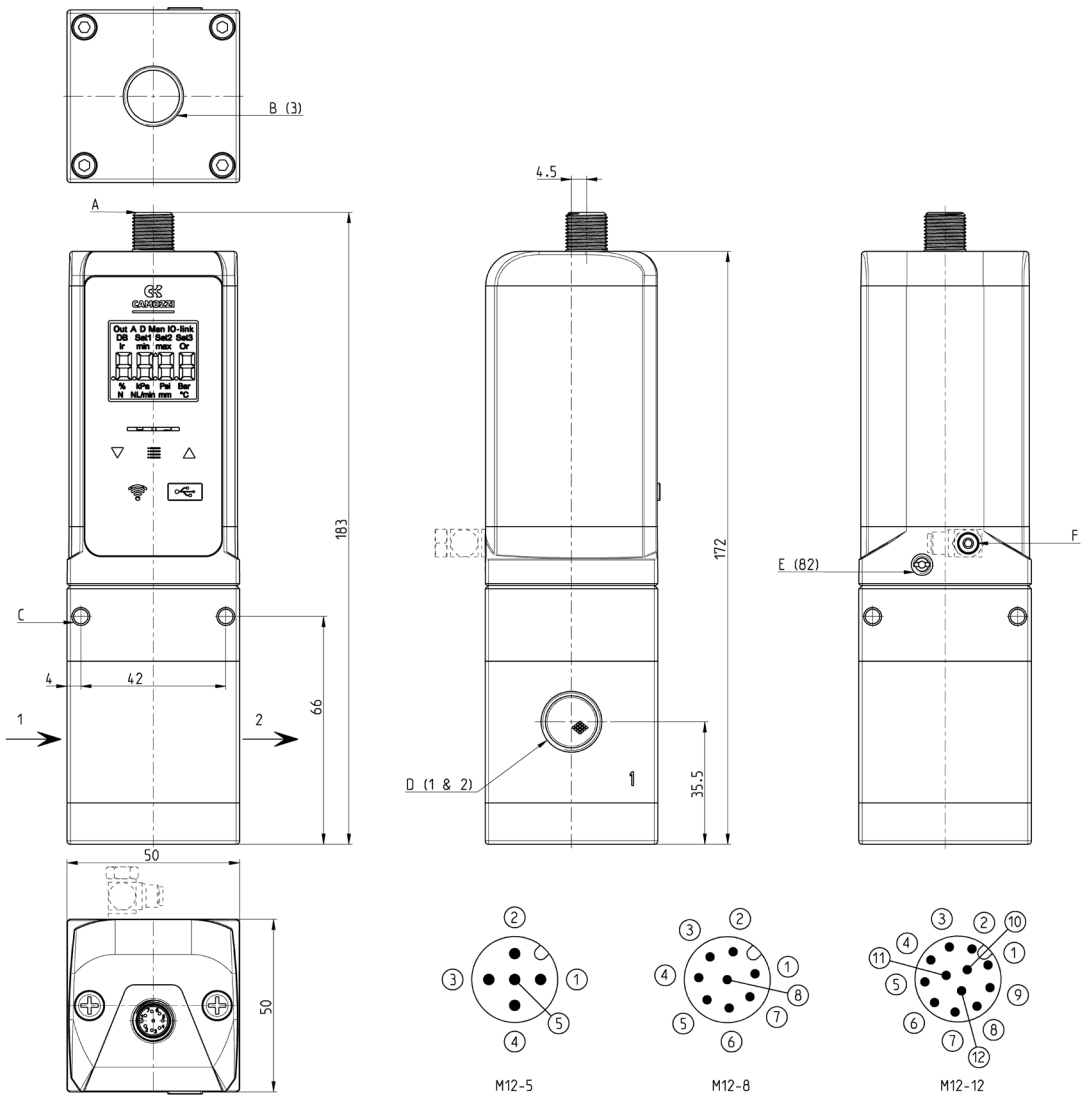
DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1



Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 1	Electrical connection M12	Regulator exhaust	Fixing holes Ø4,3	Ports G1/8 o G1/4 (GAS o NPTF)	Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2



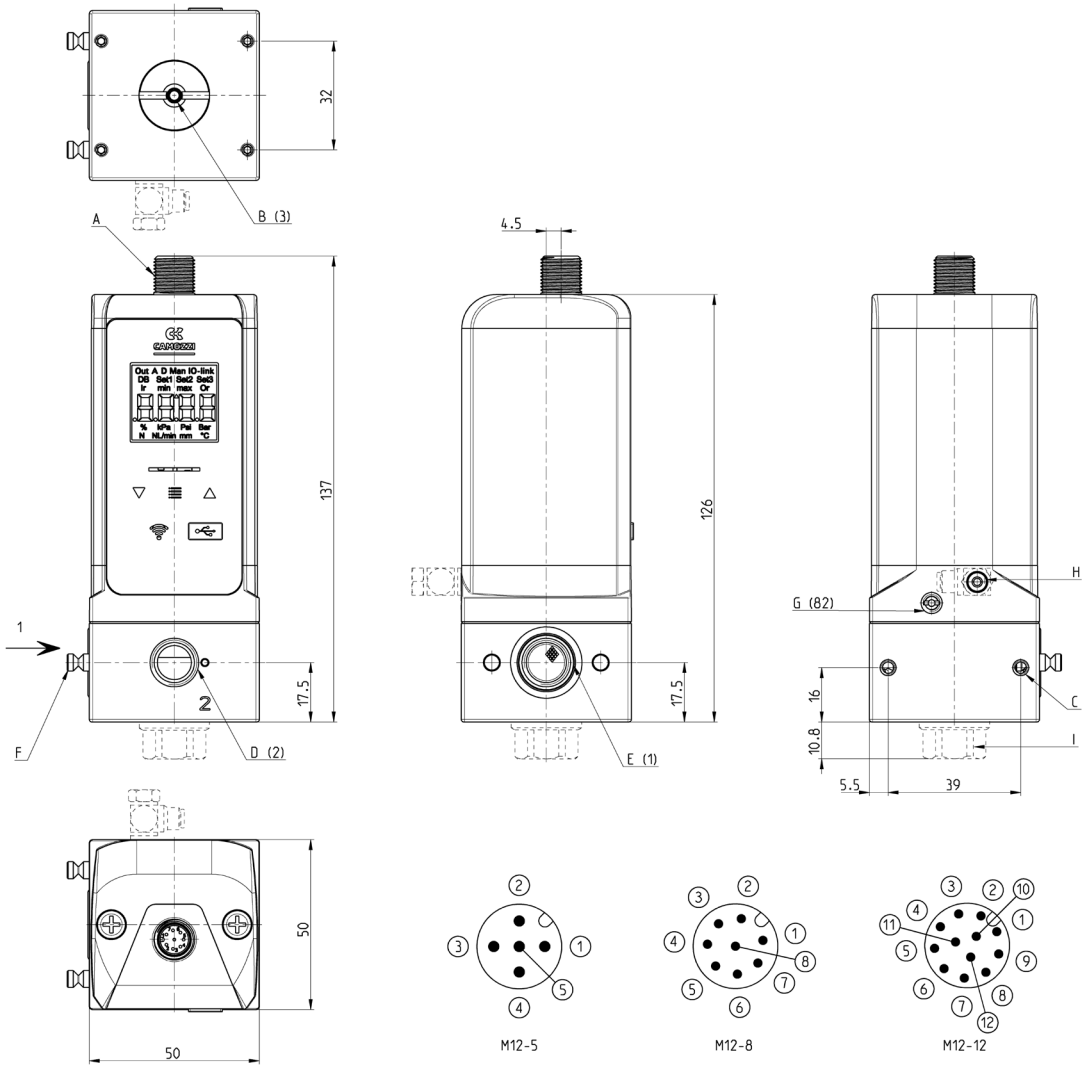
Mod.	A	B (3)	C	D (1 & 2)	E (82)	F
PRE 2	Electrical Connection M12	Regulator exhaust G3/8	Fixing holes Ø4,3	Ports G 3/8 or G 1/4	Exhaust of pilot solenoids M5	External servo-pilot M5

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

PROPORTIONAL PRESSURE REGULATOR WITH COILVISION TECHNOLOGY
SERIES PRE - DIMENSIONAL CHARACTERISTICS

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1 MANIFOLD

The fixing pins of the Manifold version are always included.

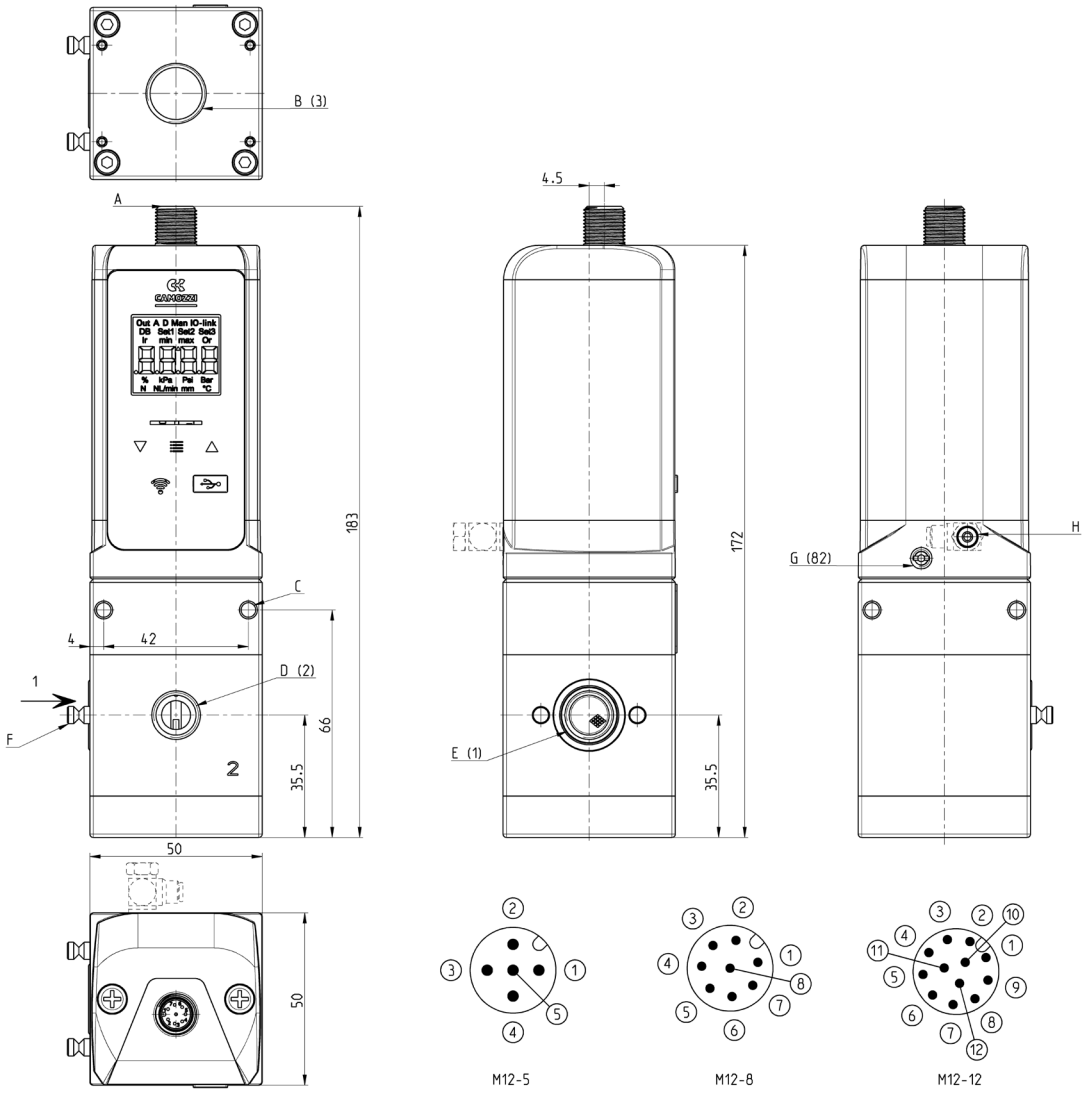


Mod.	A	B (3)	C	D (2)	E (1)	F	G (82)	H
PRE 1	Electrical connection M12	Regulator exhaust G3/8	Fixing holes Ø4.3	Outlet G 1/4	Ports G1/8 or G1/4	Connection pin	Exhaust of pilot solenoids M5	External servo-pilot M5

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2 MANIFOLD

The fixing pins of the Manifold version are always included.

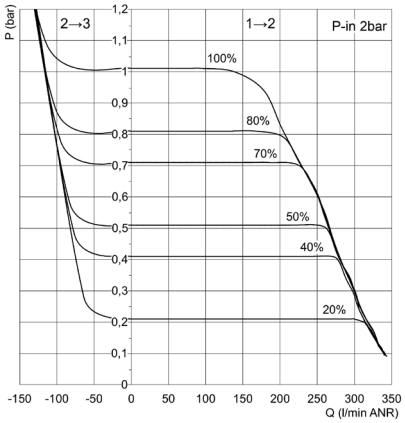


Mod.	A	B (3)	C	D (2)	E (1)	F	G (82)	H	I
PRE 2	Electrical Connection M12	Regulator exhaust	Fixing holes M3	Outlet 1/4 (GAS or NPTF)	Ports 1/4 (GAS or NPTF)	Connection pin	Exhaust of pilot solenoids M5	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

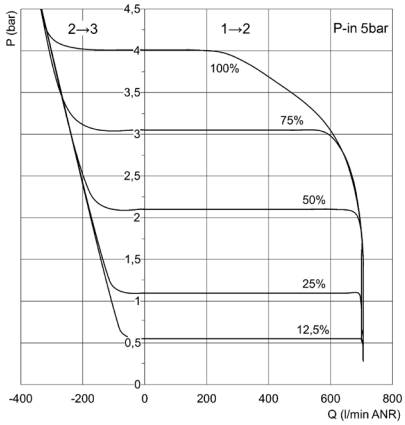
FLOW CHARTS SIZE 1 - Standard version (1/4G)

Typical curve for version PRE104-xB...



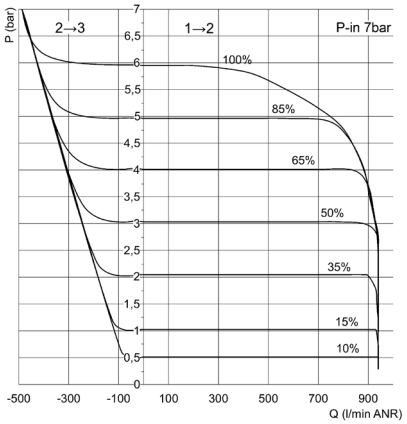
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE104-xE...



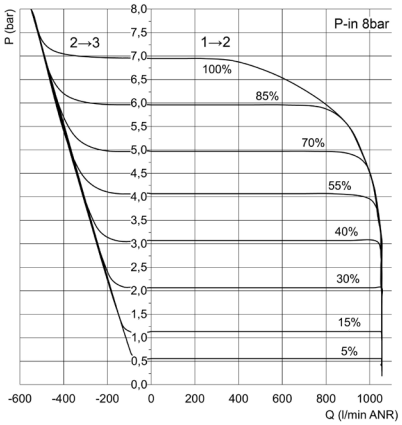
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE104-xF...



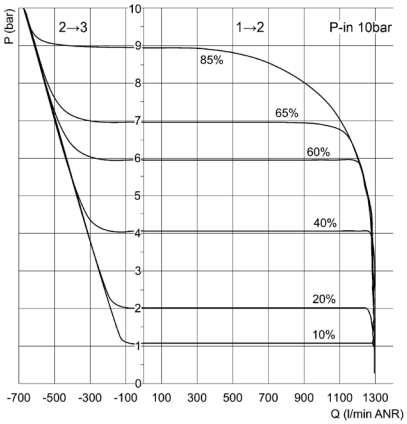
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE104-xG...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

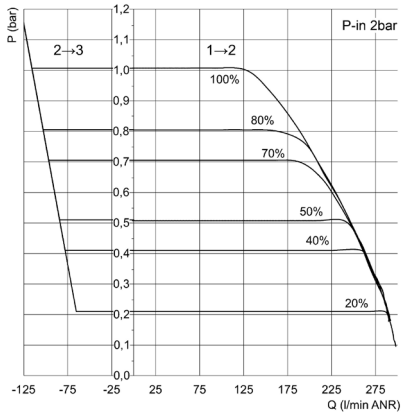
Typical curve for version PRE104-xD...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

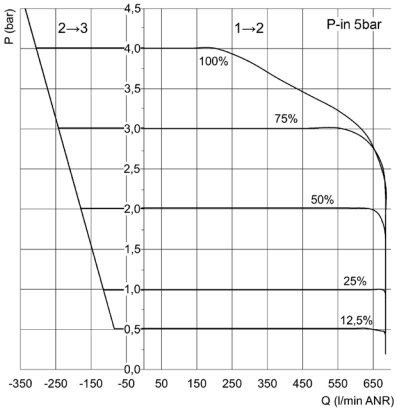
FLOW CHARTS SIZE 1 - Manifold version (1/4G)

Typical curve for version PRE1M4-xB...



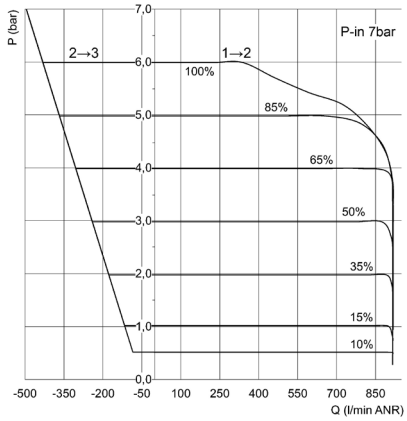
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE1M4-xE...



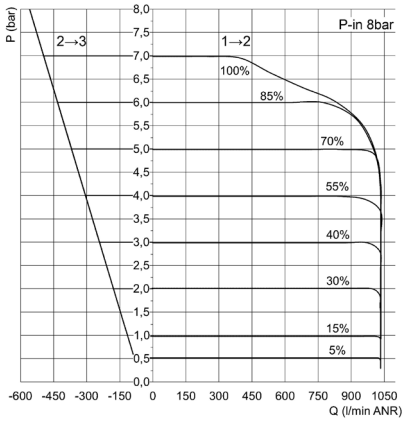
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE1M4-xF...



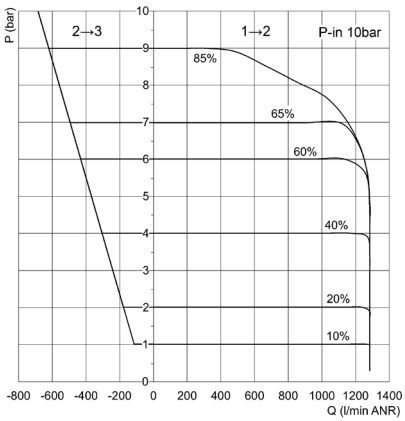
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE1M4-xG...



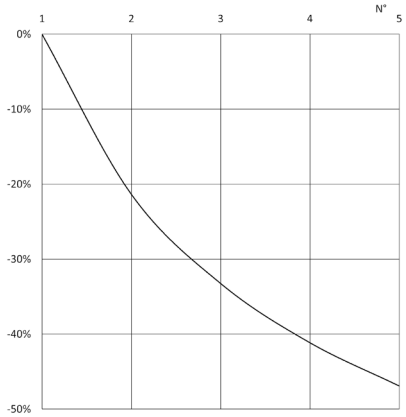
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE1M4-xD...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

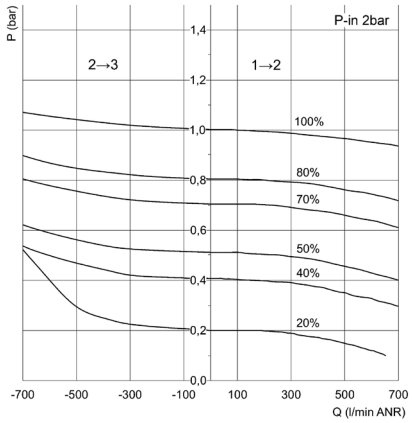
DECAY FACTOR FOR MANIFOLD REGULATORS SIZE 1



N° = number of regulators in manifold configuration % = % of decrease in flow rate compared to the maximum flow rate
Note: the air inlet is only from one side, in case it should be on the right and on the left, only consider the positions as from 1 ÷ 3.

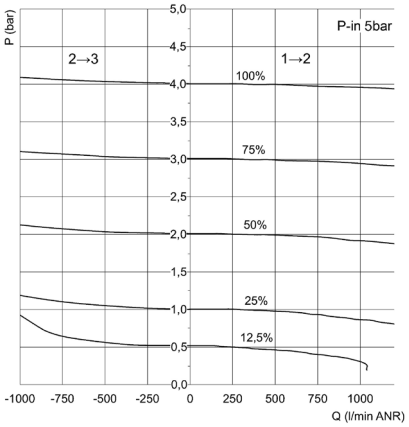
FLOW CHARTS SIZE 2 - Standard version (1/4G)

Typical curve for version PRE204-xB...



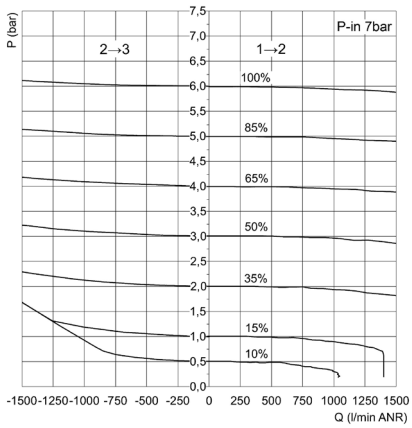
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE204-xE...



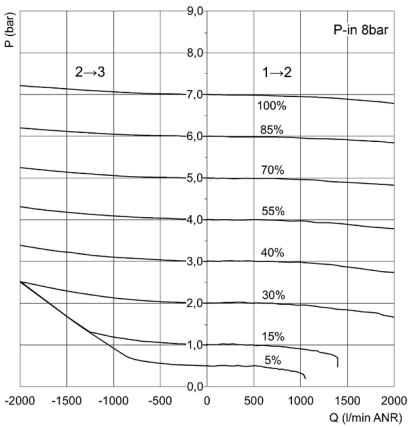
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE204-xF...



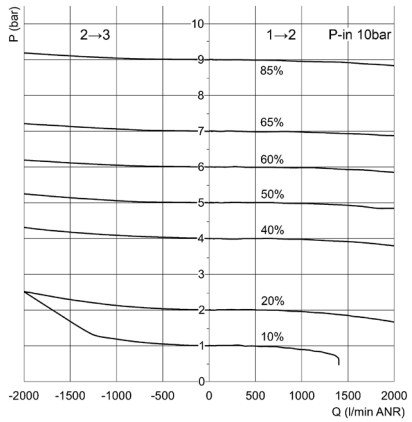
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE204-xG...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

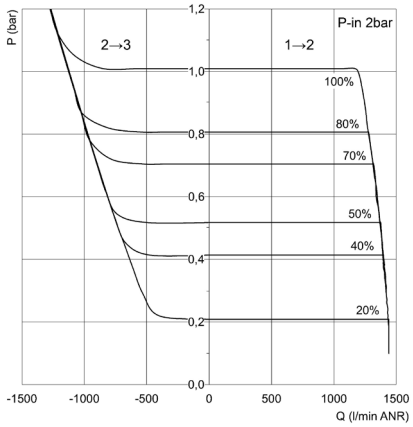
Typical curve for version PRE204-xD...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

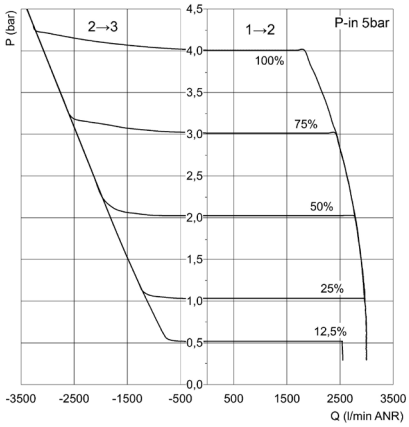
FLOW CHARTS SIZE 2 - Standard version (3/8G)

Typical curve for version PRE238-xB...



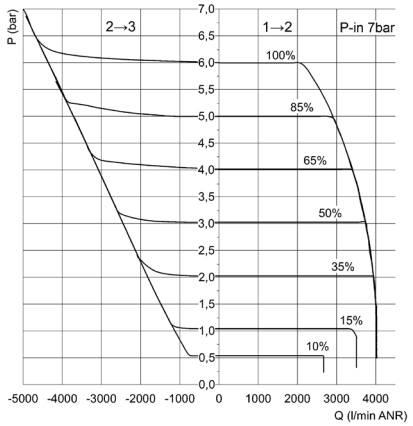
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE238-xE...



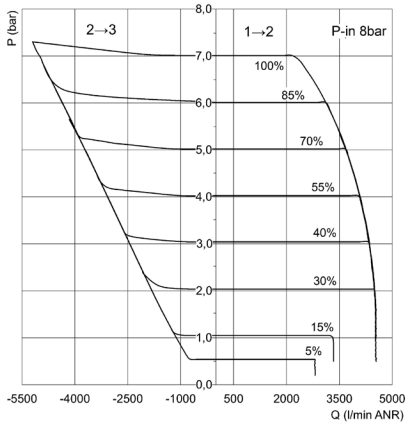
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE238-xF...



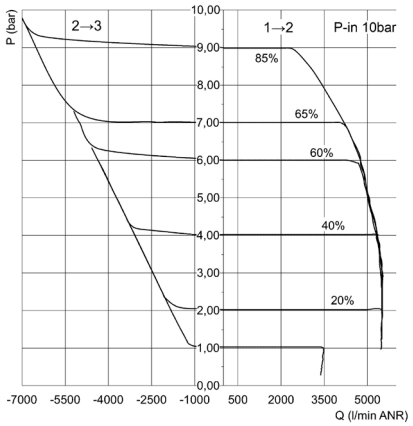
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE238-xG...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

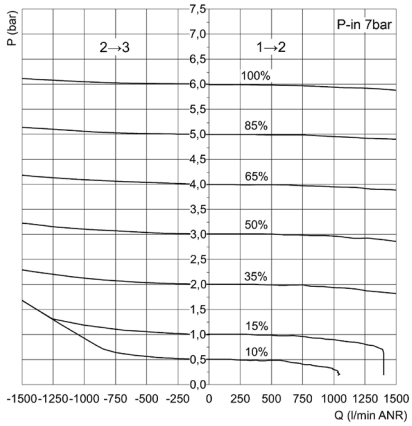
Typical curve for version PRE238-xD...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

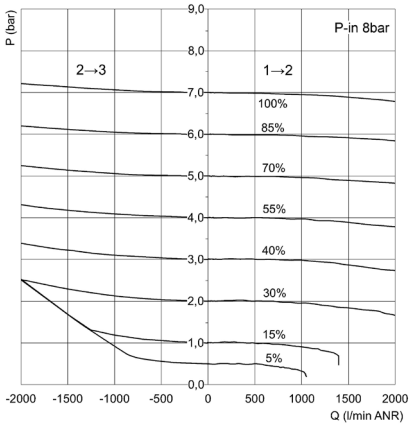
FLOW CHARTS SIZE 2 - Manifold Version (G1/4)

Typical curve for version PRE2M4-xF...



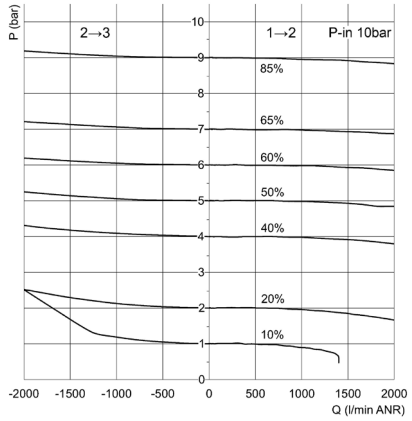
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE2M4-xG...



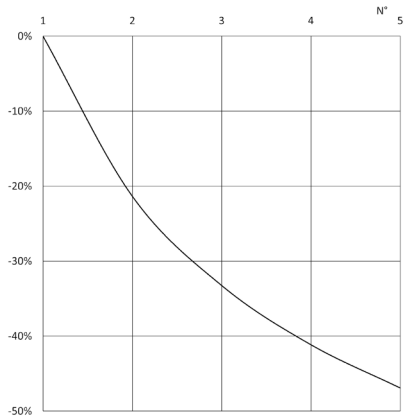
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Typical curve for version PRE2M4-xD...



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

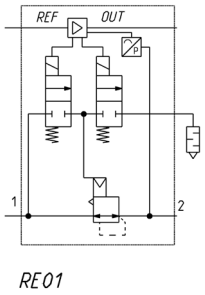
DECAY FACTOR FOR MANIFOLD REGULATORS SIZE 2



N° = number of regulators in manifold configuration
% = % of decrease in flow rate compared to the maximum flow rate
Note: the air inlet is only from one side, in case it should be on the right and on the left, only consider the positions as from 1 ÷ 3

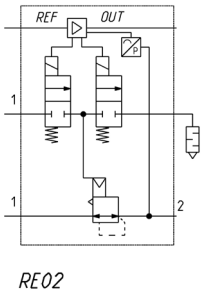
PNEUMATIC SYMBOLS OF SERIES PRE PROPORTIONAL PRESSURE REGULATOR, size 1 and 2

RE01



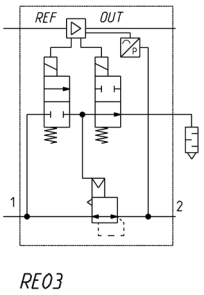
Version with internal servo-pilot supply, two pilot valves 2/2 NC.

RE02



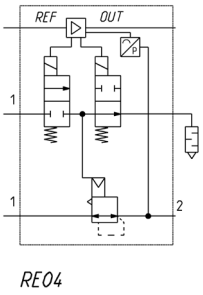
Version with external servopilot supply and two pilot valves 2/2 NC.

RE03



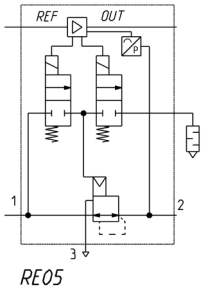
Version with internal servopilot supply and two pilot valves; one 2/2 NC and one 2/2 NO (exhaust)

RE04



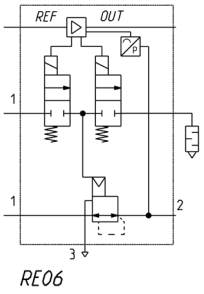
Version with external servopilot supply and two pilot valves; one 2/2 NC and one 2/2 NO (exhaust)

RE05



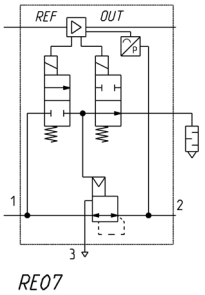
Version with internal servo-pilot supply and two pilot valves 2/2 NC, exhaust conveyable.

RE06



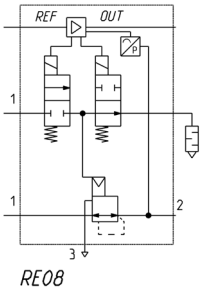
Version with external servopilot supply and two pilot valves 2/2 NC, exhaust conveyable.

RE07



Version with internal servopilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust, exhaust conveyable.

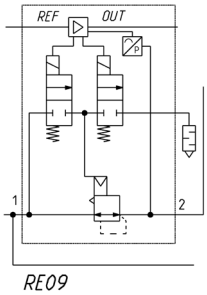
RE08



Version with external servopilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust, exhaust conveyable.

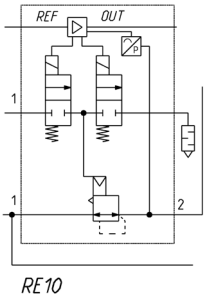
PNEUMATIC SYMBOLS OF SERIES PRE PROPORTIONAL PRESSURE REGULATOR, manifold version size 1 and 2

RE09



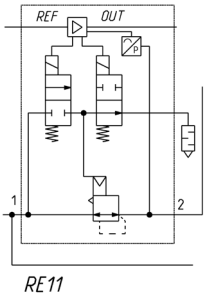
Manifold version with internal servo-pilot supply and two pilot valves 2/2 NC.

RE10



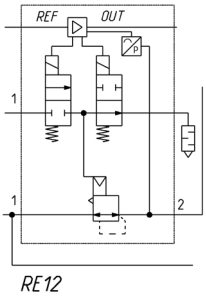
Manifold version with external servo-pilot supply and two pilot valves 2/2 NC.

RE11



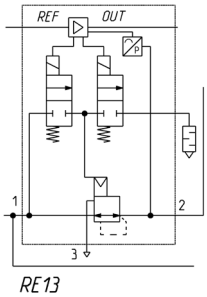
Manifold version with internal servo-pilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust.

RE12



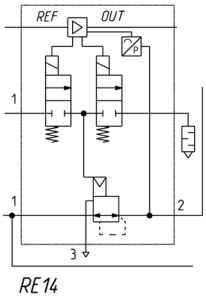
Manifold version with external servo-pilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust.

RE13



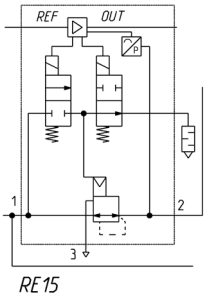
Manifold version with internal servo-pilot supply and two pilot valves 2/2 NC and exhaust conveyable.

RE14



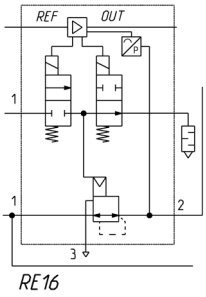
Manifold version with external servo-pilot supply and two pilot valves 2/2 NC and exhaust conveyable.

RE15



Manifold version with internal servo-pilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust, exhaust conveyable.

RE16

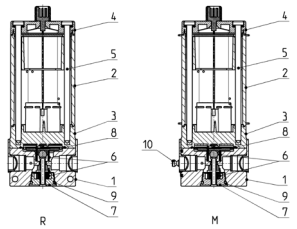


Manifold version with external servo-pilot supply and two pilot valves; one 2/2 NC and one 2/2 NO to exhaust, exhaust conveyable.

PROPORTIONAL PRESSURE REGULATOR WITH COILVISION TECHNOLOGY
SERIES PRE - MATERIALS

SIZE 1 - MATERIALS

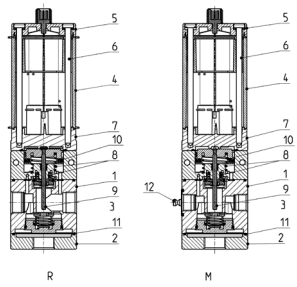
R = Proportional regulator
M = Proportional regulator - manifold verision



PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = body	Anodised aluminium	Anodised aluminium
2 = cover	PA6 CM 30%	PA6 CM 30%
3 = valve body	PARA GF50%	PARA GF50%
4 = cap	PA6 CM 30%	PA6 CM 30%
5 = screws	stainless steel	stainless steel
6 = springs	stainless steel	stainless steel
7 = plug	nickel-plated brass	nickel-plated brass
8 = diaphragm	NBR	FKM
9 = seals and O-Ring	NBR	FKM
10 = pin for manifold version	stainless steel only for manifold version	stainless steel only for manifold version

SIZE 2 - MATERIALS

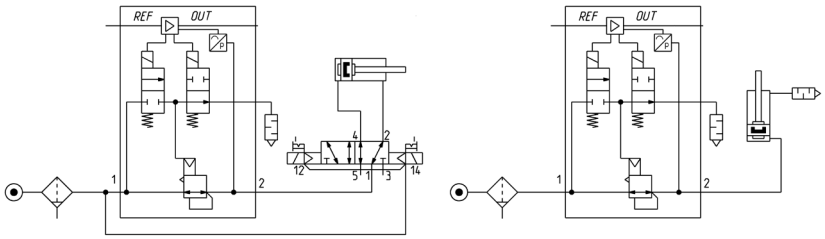
R = Proportional regulator
M = Proportional regulator - manifold verision



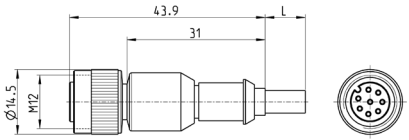
PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = body	Anodised aluminium	Anodised aluminium
2 = end cover	PA6 CM 30%	Anodised aluminium
3 = plug	brass	brass
4 = cover	PA6 CM 30%	PA6 CM 30%
5 = cap	PA6 CM 30%	PA6 CM 30%
6 = screws	stainless steel	stainless steel
7 = valve body	PARA GF50%	PARA GF50%
8 = springs	stainless steel	stainless steel
9 = piston rod	stainless steel	stainless steel
10 = piston seal	NBR	NBR
11 = seals and O-Ring	NBR	FKM
12 = pin for manifold version	stainless steel only for manifold version	stainless steel only for manifold version

PNEUMATIC DIAGRAM FOR INSTALLATION

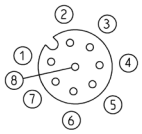
PRE version with integrated exhaust valve.
We suggest to make a pneumatic diagram in order to create a pneumatic circuit that allows to discharge the regulated pressure in absence of power supply.



Cable with M12 8 pin straight connector, female

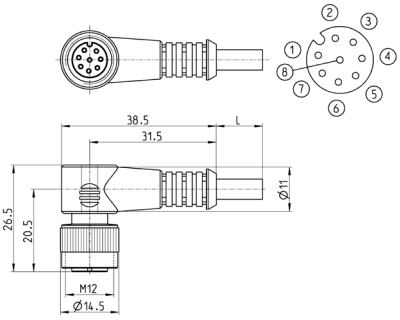


For power supply, analog command signal and PreSet



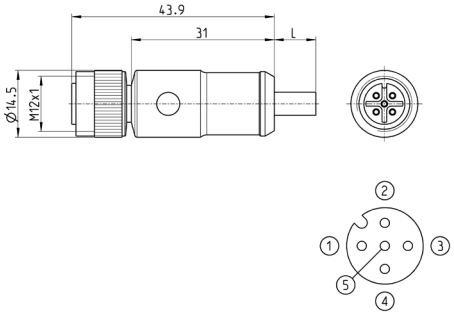
Mod.	Cable length (m)	Shielding
CS-LF08HB-H200	2	Unshielded
CS-LF08HB-H500	5	Unshielded
CS-LF08HC-G200	2	Shielded
CS-LF08HC-G500	5	Shielded

Cavo con connettore M12, 8 poli femmina 90°



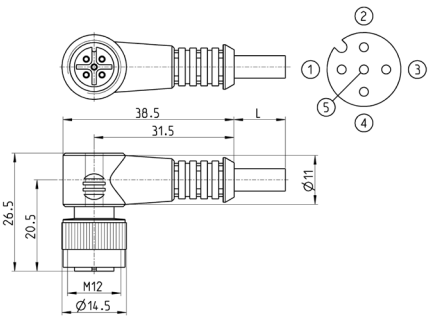
Mod.	Cable length (m)	Shielding
CS-LR08HB-H200	2	Unshielded
CS-LR08HB-H500	5	Unshielded
CS-LR08HC-G200	2	Shielded
CS-LR08HC-G500	5	Shielded

Cable with M12, 5 pin, connector, female, straight, shielded



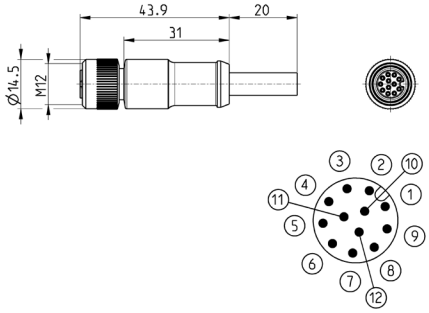
Mod.	Cable length (m)	Shielding
CS-LF05HB-C200	2	Unshielded
CS-LF05HB-C500	5	Unshielded
CS-LF05HB-D200	2	Shielded
CS-LF05HB-D500	5	Shielded

Cable with M12 5 pin connnector, 90°, female



Mod.	Cable length (m)	Shielding
CS-LR05HB-C200	2	Unshielded
CS-LR05HB-C500	5	Unshielded
CS-LR05HB-D200	2	Shielded
CS-LR05HB-D500	5	Shielded

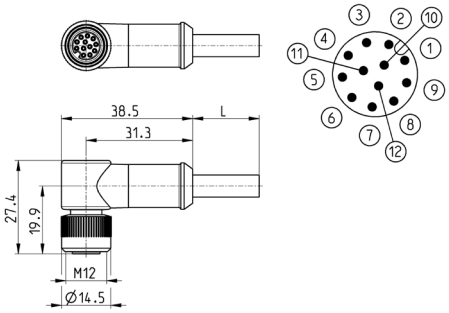
Cable with M12, 12 pin connector, straight, female



For power supply and analog command signal with external sensor

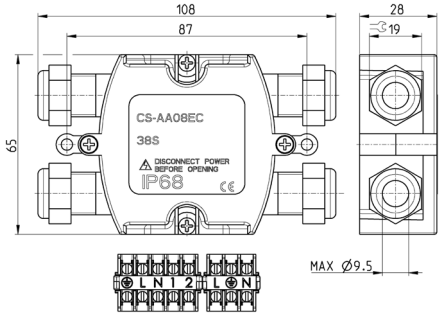
Mod.	Cable length (m)	Shielding
CS-LF12HC-C200	2	Unshielded
CS-LF12HC-C500	5	Unshielded
CS-LF12HC-D200	2	Shielded
CS-LF12HC-D500	5	Shielded

Cable with M12 12 pin connnector, 90°, female



Mod.	Cable length (m)	Shielding
CS-LR12HC-C200	2	Unshielded
CS-LR12HC-C500	5	Unshielded
CS-LR12HC-D200	2	Shielded
CS-LR12HC-D500	5	Shielded

Electrical tee box Mod. CS-AA08EC

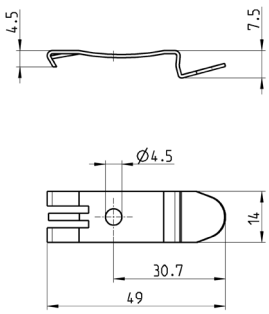


Mod.
CS-AA08EC

Mounting brackets for DIN-rail PRE

DIN EN 50022 (7,5mm x 35mm - width 1)

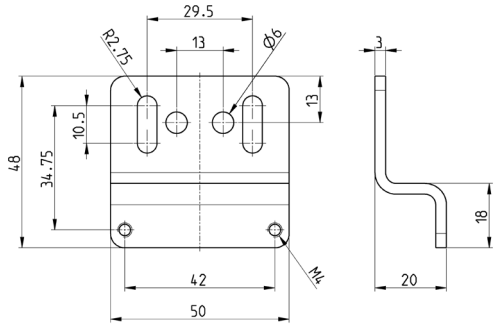
Supplied with:
2x mounting brackets
2x screws M4x6 UNI 5931
2x nuts



Mod.
PCF-EN531

Rear bracket PRE

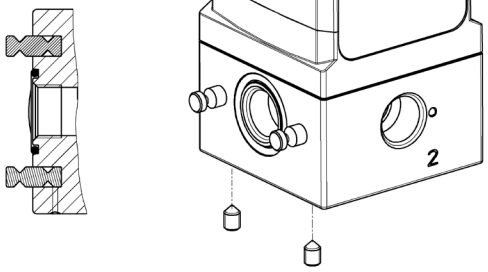
The kit includes
1x zinc-plated bracket
2x M4x55 white zinc-plated screws



Mod.
PRE-ST

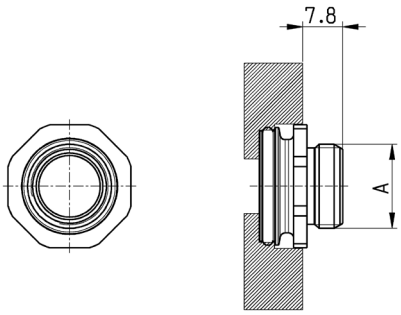
Fixing kit for manifold version: PRE

The kit includes:
2x shaped steel pins
4x steel grub screws
1x O-Ring



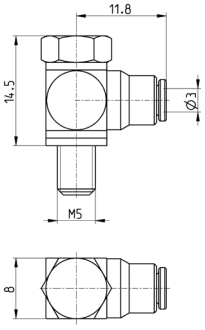
Mod.
PRE-M-PIN-1-2

Fixing kit for Series MD: PRE



Mod.	A
PRE-1/4-C	G1/4
PRE-3/8-C	G3/8

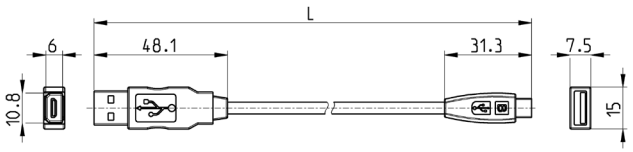
Fittings for external pilot supply



Mod.
6625 3-M5

USB to Micro USB cable Mod. G11W-G12W-2

For the hardware configuration of the Camozzi products



Mod.	Description	Connections	Material for outer sheath	Cable length "L" (m)
G11W-G12W-2	black shielded cable 28 AWG	standard USB to Micro USB	PVC	2

Y-shaped, PRE - CX4 connection cable

Cable to connect PRE to the analog I/O modules CX and CX4.
M12 8 pin (PRE) and M12 5 pin (CX input and CX output) connections.

Mod.	Analog output	Cable length "L" (m)
PRE-CS-Y-V	0-10V	2
PRE-CS-Y-I	4-20mA	2